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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/766,623	01/23/2001	Wen-Ching Chen	MR1683-291	8367

7590 01/02/2003

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SUITE 101
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ELLICOTT CITY, MD 21043

EXAMINER

WORKU, NEGUSSIE

ART UNIT

PAPER NUMBER

2624

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

89/097,666

09/766,623

Applicant(s)

BRANDT ET AL.

Examiner

Negussie Worku

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-5, are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Are the CCD image sensor and CMOS image sensors discloses as two separate devices or are they single device?.

3. Claims 1-5, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular is the "CCD and CMOS" image sensors separate device or a single device? *Application fails* failing to particularly point out how the two devices are working together within module.

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5, are rejected under 35 U.S.C. 103(a) as being unpatentable over Danna et al. (USP 4,491,865) in view of Tabata et al. (USP 6,115,187).

With respect to claim 1, Danna et al. discloses a CCD image pickup module (as shown in fig 3, see col.4, lines 22-26) comprising: a circuit main board (CCD support substrate 57 of fig 5), on which an image sensor (25 of fig 2) and relevant electronic elements are laid, see (col.4, lines 35-49), a lens (lens 24 of fig 5) seat being disposed on an upper edge of a package of the image sensor, (image sensor 24 of fig 5), said image pickup module ,see (fig 2) being characterized in that the lens seat has an image pickup cylinder, see (col.4, lines 34) correspondingly positioned above a coupling transistor (transistor 73-73 of fig 4, see col.4, lines 62-64) the image sensor, (25 of fig

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2) the image pickup cylinder (sensor housing 27 of fig 2), at least covering an effective sensing area (25 of fig 2) of the coupling transistor, (78 of fig 2) the lens seat covering and enclosing the image sensor (25 of fig 2) with the connecting section of the image pickup cylinder (sensor housing 27 of fig 2) sealedly attaching to the periphery of the top face of the package of the image sensor, (25 of fig 2) with the profile of the outer periphery of the package of the image sensor serving as a normal standard for the axis (69 of fig 2) of the lens, (lens 24 of fig 2) the axis of the lens being projected onto the sensor center (25 of fig 2) of the coupling transistor (73-73 of fig 4).

Danna et al. does not disclose a CMOS image pickup module.

However, Tabata discloses an image pickup device, (IC sensor 12 of fig 6), comprises CMOS photoelectric conversion elements for converting light to an electrical signal.

Since Danna and Tabata are both directed to same field of endeavor, namely image pickup devices such as CCD and CMOS image sensor. The purpose of having an image reader CCD and CMOS image sensor as a package would have been recognized by Danna as set forth by Tabata et al.

It would have been obvious to combine CCD image reading sensor 25 of fig 2, of Danna, with CMOS image sensor 12 of fig 6, of Tabata for the purpose of having a package of image sensor both CCD and CMOS. the purpose of having the CCD sensor and the CMOS image sensor in a package is that to use efficiently both CCD and CMOS image sensor device.

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Therefore, it would have been obvious to combine Danna as modified by Tabata to obtain the invention as specified in claim 1.

With respect to claim 2, Danna discloses a CCD image pickup module (25 of fig 2), wherein the lens seat covers and encloses the image sensor (image sensor 25 of fig 2, see col.2, line 62-63), CCD to serve as a top package (protective coating 67 of fig 4) of the image sensor, (25 of fig 2) the connecting section (connector pin 75-75 of fig 4), of the lens (24 of fig 2) seat outward extending to encompass the outer periphery of the package of the image sensor, see (col.4, lines 22-23), with the profile of the outer periphery of the package of the image sensor serving (fig 2 as a whole a package of image sensor) as a standard, the axis of the lens being projected onto the sensor center of the coupling transistor (73-73 of fig 4).

With respect to claim 3, a CCD image pickup module (25 of fig 2) as wherein the top package (a cylindrical image sensor 67 of fig 2) of the image sensor (25 of fig 2) includes a sealing glass sheet, (protective coating 67 of fig 2) an outer periphery of the glass sheet (protective coating 67 of fig 2) being overlaid on and flush with the profile of the package of the image sensor, (see fig 2, a package of image sensor 25 of fig 2, as a whole) an inner periphery of the bottom face of the connecting section of the lens (24 of fig 2) seat being formed with a step face, (72 of fig 2, the face of the lens) an inner periphery of the step face having a dimension slightly smaller than that of the outer

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periphery of the glass sheet, the step face (72 of fig 2, the face of the lens) being attached to the periphery of the top face of the glass sheet, (67 of fig 2) with the profile of the outer periphery of the package of the image sensor (25 of fig 2) serving as a standard for the outer periphery of the step face, (72 of fig 2, the face of the lens) the axis of the lens (axis 69 of fig 2) being projected onto the sensor center of the coupling transistor (73-73 of fig 4).

With respect to claim 4, Danna discloses a CCD image pickup module (25 of fig 2, see col.4, lines 7-8) wherein the top package (image sensing housing 27 of fig 2) of the image sensor (CCD 25 of fig 2) includes a sealing glass sheet, (67 of fig 2) an outer periphery of the glass sheet being slightly smaller than the profile of the package of the image sensor, (25 of fig 2) an inner periphery of the bottom face of the connecting section of the lens (lens 24 of fig 2) seat being formed with a step face, an inner periphery of the step face having such a dimension as to encompass the entire glass sheet, with the profile of the outer periphery of the package of the image sensor, see col.4, line 7-8) serving as a standard for the outer periphery of the step face, the axis of the lens being projected onto the sensor center of the coupling transistor (73-73 of fig 4).

With respect to claim 5, Danna discloses a CCD image pickup module (as shown in fig 2, see col.4, lines 22-24), wherein the top package of the image sensor CCD (25 of fig 2) includes a sealing glass sheet, (67 of fig 2, see col.4, line 15) an

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outer periphery of the glass sheet being slightly smaller than the profile of the package of the image sensor, (25 of fig 2) whereby a plane section free from covering of the glass sheet is left on the periphery of top face of the image sensor, (25 of fig 2) an outer periphery of the lens (24 of fig 2) seat having a dimension equal to that of the outer periphery of the image sensor, see (col.4, lines 22-23) an inner periphery of the bottom face of the connecting section (83-83 of fig 2, see col.5, lines 15) of the lens seat being formed with a stepped section having a first end face (end face 72 of fig 2, for lens 24 of fig 2) and a second end face (71 of fig 2) an inner periphery of the first end face having a dimension slightly larger than that of the outer periphery of the glass sheet, an inner periphery of the second end face having a dimension slightly smaller than that of the outer periphery of the glass sheet, the first and second end faces of the lens (25 of fig 1) seat being respectively connected with the plane section of the periphery of top face of the image sensor (25 of fig 2) and the top face of the glass sheet.

6. Any inquiry concerning this communication or earlier communication from Examiner should be directed to *Negussie Worku* whose telephone number is (703) 305 5441.

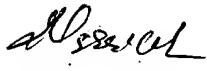
The Examiner can normally be reached on M-F, 9 am - 6 pm if attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, David Moore, can be reached on (703) 308-7452.

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The fax phone number for the organization where this application or proceeding is assigned is (703) 306-5406, and any inquiry of general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.


Negusie Worku

12/ 22/ 02


JOSEPH E. GRANT II
PATENT EXAMINER